

Appln. No.: 09/977,716  
Reply to Office Action of August 20, 2003

UPN0015-103

## Amendments to the Claims:

1. (Currently Amended) A method for detecting molecules expressing a selected epitope in a sample comprising:
  - (a) immobilizing a molecule expressing a selected epitope in a sample to a selected surface;
  - (b) contacting the surface with an epitope detector so that the epitope detector binds to immobilized molecules on the surface, said epitope detector comprising an oligonucleotide attached to a CDR mimetic or engineered CDR structure;
  - (c) amplifying the oligonucleotide of said epitope detector by RNA amplification;
  - (d) contacting the amplified oligonucleotide product with a fluorescent dye which binds to RNA and stains the amplified oligonucleotide product; and
  - (e) detecting fluorescence emitted from the stained oligonucleotide product of step (d) which is indicative of epitope detector bound to the surface and molecules expressing the selected epitope in the sample.
- 2-14. (Canceled)
15. (New) The method of claim 1 wherein the selected surface to which the molecule expressing a selected epitope in a sample is immobilized is a chip or plastic well.
16. (New) The method of claim 1 wherein the selected surface is a chip or a microtiter plate.
17. (New) The method of claim 1 wherein the oligonucleotide is linked to the CDR mimetic or engineered CDR structure by biotin-streptavidin linkers.
18. (New) The method of claim 1 wherein the oligonucleotide is a double stranded cDNA molecule.
19. (New) The method of claim 1 wherein the oligonucleotide comprises an RNA promoter selected from the group consisting of a T7 RNA promoter, a T3 RNA promoter, and an SP6 RNA promoter.

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20. (New) The method of claim 1 wherein the fluorescent dye is an unsymmetrical cyanine dye.
21. (New) The method of claim 17, wherein said biotin is located at the 5'-terminus of the oligonucleotide.
22. (New) The method of claim 1 further comprising adding the amplified oligonucleotide of said epitope detector from step (c) to a reverse transcriptase based reaction or a replicase based reaction to increase sensitivity.
23. (New) A method for quantifying molecules expressing a selected epitope in a sample comprising:
- (a) immobilizing a molecule expressing a selected epitope in a sample to a selected surface;
  - (b) contacting the surface with an epitope detector so that the epitope detector binds to immobilized molecules on the surface, wherein said epitope detector comprising an oligonucleotide attached to a CDR mimetic or engineered CDR;
  - (c) amplifying the oligonucleotide of said epitope detector by RNA amplification;
  - (d) contacting the amplified oligonucleotide with a fluorescent dye which binds to RNA and stains the amplified oligonucleotide; and
  - (e) measuring a quanta of fluorescence signals emitted from the stained oligonucleotide which is directly proportional to epitope detector bound to the surface and molecules expressing the selected epitope in the sample.
24. (New) The method of claim 23 wherein the selected surface to which the molecule expressing a selected epitope in a sample is immobilized is a chip or plastic well.
25. (New) The method of claim 23 wherein the selected surface is a chip or a microtiter plate.

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26. (New) The method of claim 23 wherein the oligonucleotide is linked to the CDR mimetic or engineered CDR structure by biotin-streptavidin linkers.

27. (New) The method of claim 23 wherein the oligonucleotide is a double stranded cDNA molecule.

28. (New) The method of claim 23 wherein the oligonucleotide comprises an RNA promoter selected from the group consisting of a T7 RNA promoter, a T3 RNA promoter, and an SP6 RNA promoter.

29. (New) The method of claim 23 wherein the fluorescent dye is an unsymmetrical cyanine dye.